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## NOTICE OF ALLOWANCE AND FEE(S) DUE

7590 05/06/2008

Thomas D MacBlain  
Gallagher & Kennedy  
2575 East Camelback Road  
Phoenix, AZ 85016-9225

EXAMINER

HOFFBERG, ROBERT JOSEPH

ART UNIT

PAPER NUMBER

2835

DATE MAILED: 05/06/2008

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/579,379

01/10/2007

Markus Schwab

14609-0040

8278

TITLE OF INVENTION: ELECTRIC DEVICE WITH IMPROVED COOLING AND CASING THEREFOR

APPLN. TYPE	SMALL ENTITY	ISSUE FEE DUE	PUBLICATION FEE DUE	PREV. PAID ISSUE FEE	TOTAL FEE(S) DUE	DATE DUE
nonprovisional	NO	\$1440	\$300	\$0	\$1740	08/06/2008

**THE APPLICATION IDENTIFIED ABOVE HAS BEEN EXAMINED AND IS ALLOWED FOR ISSUANCE AS A PATENT. PROSECUTION ON THE MERITS IS CLOSED. THIS NOTICE OF ALLOWANCE IS NOT A GRANT OF PATENT RIGHTS. THIS APPLICATION IS SUBJECT TO WITHDRAWAL FROM ISSUE AT THE INITIATIVE OF THE OFFICE OR UPON PETITION BY THE APPLICANT. SEE 37 CFR 1.313 AND MPEP 1308.**

**THE ISSUE FEE AND PUBLICATION FEE (IF REQUIRED) MUST BE PAID WITHIN THREE MONTHS FROM THE MAILING DATE OF THIS NOTICE OR THIS APPLICATION SHALL BE REGARDED AS ABANDONED. THIS STATUTORY PERIOD CANNOT BE EXTENDED. SEE 35 U.S.C. 151. THE ISSUE FEE DUE INDICATED ABOVE DOES NOT REFLECT A CREDIT FOR ANY PREVIOUSLY PAID ISSUE FEE IN THIS APPLICATION. IF AN ISSUE FEE HAS PREVIOUSLY BEEN PAID IN THIS APPLICATION (AS SHOWN ABOVE), THE RETURN OF PART B OF THIS FORM WILL BE CONSIDERED A REQUEST TO REAPPLY THE PREVIOUSLY PAID ISSUE FEE TOWARD THE ISSUE FEE NOW DUE.**

### HOW TO REPLY TO THIS NOTICE:

#### I. Review the SMALL ENTITY status shown above.

If the SMALL ENTITY is shown as YES, verify your current SMALL ENTITY status:

A. If the status is the same, pay the TOTAL FEE(S) DUE shown above.

B. If the status above is to be removed, check box 5b on Part B - Fee(s) Transmittal and pay the PUBLICATION FEE (if required) and twice the amount of the ISSUE FEE shown above, or

If the SMALL ENTITY is shown as NO:

A. Pay TOTAL FEE(S) DUE shown above, or

B. If applicant claimed SMALL ENTITY status before, or is now claiming SMALL ENTITY status, check box 5a on Part B - Fee(s) Transmittal and pay the PUBLICATION FEE (if required) and 1/2 the ISSUE FEE shown above.

II. PART B - FEE(S) TRANSMITTAL, or its equivalent, must be completed and returned to the United States Patent and Trademark Office (USPTO) with your ISSUE FEE and PUBLICATION FEE (if required). If you are charging the fee(s) to your deposit account, section "4b" of Part B - Fee(s) Transmittal should be completed and an extra copy of the form should be submitted. If an equivalent of Part B is filed, a request to reapply a previously paid issue fee must be clearly made, and delays in processing may occur due to the difficulty in recognizing the paper as an equivalent of Part B.

III. All communications regarding this application must give the application number. Please direct all communications prior to issuance to Mail Stop ISSUE FEE unless advised to the contrary.

**IMPORTANT REMINDER: Utility patents issuing on applications filed on or after Dec. 12, 1980 may require payment of maintenance fees. It is patentee's responsibility to ensure timely payment of maintenance fees when due.**

# **PART B - FEE(S) TRANSMITTAL**

**Complete and send this form, together with applicable fee(s), to: Mail Mail Stop ISSUE FEE  
Commissioner for Patents  
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INSTRUCTIONS: This form should be used for transmitting the ISSUE FEE and PUBLICATION FEE (if required). Blocks 1 through 5 should be completed where appropriate. All further correspondence including the Patent, advance orders and notification of maintenance fees will be mailed to the current correspondence address as indicated unless corrected below or directed otherwise in Block 1, by (a) specifying a new correspondence address; and/or (b) indicating a separate "FEE ADDRESS" for maintenance fee notifications.

CURRENT CORRESPONDENCE ADDRESS (Note: Use Block 1 for any change of address)

Note: A certificate of mailing can only be used for domestic mailings of the Fee(s) Transmittal. This certificate cannot be used for any other accompanying papers. Each additional paper, such as an assignment or formal drawing, must have its own certificate of mailing or transmission.

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Thomas D MacBlain  
Gallagher & Kennedy  
2575 East Camelback Road  
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## **Certificate of Mailing or Transmission**

I hereby certify that this Fee(s) Transmittal is being deposited with the United States Postal Service with sufficient postage for first class mail in an envelope addressed to the Mail Stop ISSUE FEE address above, or being facsimile transmitted to the USPTO (571) 273-2885, on the date indicated below.

(Depositor's name)
(Signature)
(Date)

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/579,379	01/10/2007	Markus Schwab	14609-0040	8278

TITLE OF INVENTION: ELECTRIC DEVICE WITH IMPROVED COOLING AND CASING THEREFOR

APPLN. TYPE	SMALL ENTITY	ISSUE FEE DUE	PUBLICATION FEE DUE	PREV. PAID ISSUE FEE	TOTAL FEE(S) DUE	DATE DUE
nonprovisional	NO	\$1440	\$300	\$0	\$1740	08/06/2008

EXAMINER	ART UNIT	CLASS-SUBCLASS
HOFFBERG, ROBERT JOSEPH	2835	361-695000

1. Change of correspondence address or indication of "Fee Address" (37 CFR 1.363).

- ☐ Change of correspondence address (or Change of Correspondence Address form PTO/SB/122) attached.
- ☐ "Fee Address" indication (or "Fee Address" Indication form PTO/SB/47; Rev 03-02 or more recent) attached. **Use of a Customer Number is required.**

2. For printing on the patent front page, list

- (1) the names of up to 3 registered patent attorneys or agents OR, alternatively, 1 \_\_\_\_\_
- (2) the name of a single firm (having as a member a registered attorney or agent) and the names of up to 2 registered patent attorneys or agents. If no name is listed, no name will be printed. 2 \_\_\_\_\_
- 3 \_\_\_\_\_

3. ASSIGNEE NAME AND RESIDENCE DATA TO BE PRINTED ON THE PATENT (print or type)

PLEASE NOTE: Unless an assignee is identified below, no assignee data will appear on the patent. If an assignee is identified below, the document has been filed for recordation as set forth in 37 CFR 3.11. Completion of this form is NOT a substitute for filing an assignment.

(A) NAME OF ASSIGNEE

(B) RESIDENCE: (CITY and STATE OR COUNTRY)

Please check the appropriate assignee category or categories (will not be printed on the patent) : ☐ Individual ☐ Corporation or other private group entity ☐ Government

4a. The following fee(s) are submitted:

- ☐ Issue Fee
- ☐ Publication Fee (No small entity discount permitted)
- ☐ Advance Order - # of Copies \_\_\_\_\_

4b. Payment of Fee(s); (Please first reapply any previously paid issue fee shown above)

- ☐ A check is enclosed.
- ☐ Payment by credit card. Form PTO-2038 is attached.
- ☐ The Director is hereby authorized to charge the required fee(s), any deficiency, or credit any overpayment, to Deposit Account Number \_\_\_\_\_ (enclose an extra copy of this form).

5. Change in Entity Status (from status indicated above)

- ☐ a. Applicant claims SMALL ENTITY status. See 37 CFR 1.27. ☐ b. Applicant is no longer claiming SMALL ENTITY status. See 37 CFR 1.27(g)(2).

NOTE: The Issue Fee and Publication Fee (if required) will not be accepted from anyone other than the applicant; a registered attorney or agent; or the assignee or other party in interest as shown by the records of the United States Patent and Trademark Office.

Authorized Signature \_\_\_\_\_

Date \_\_\_\_\_

Typed or printed name \_\_\_\_\_

Registration No. \_\_\_\_\_

This collection of information is required by 37 CFR 1.311. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, Virginia 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, Virginia 22313-1450.

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EXAMINER

HOFFBERG, ROBERT JOSEPH

ART UNIT

PAPER NUMBER

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DATE MAILED: 05/06/2008

## Determination of Patent Term Adjustment under 35 U.S.C. 154 (b) (application filed on or after May 29, 2000)

The Patent Term Adjustment to date is 0 day(s). If the issue fee is paid on the date that is three months after the mailing date of this notice and the patent issues on the Tuesday before the date that is 28 weeks (six and a half months) after the mailing date of this notice, the Patent Term Adjustment will be 0 day(s).

If a Continued Prosecution Application (CPA) was filed in the above-identified application, the filing date that determines Patent Term Adjustment is the filing date of the most recent CPA.

Applicant will be able to obtain more detailed information by accessing the Patent Application Information Retrieval (PAIR) WEB site (<http://pair.uspto.gov>).

Any questions regarding the Patent Term Extension or Adjustment determination should be directed to the Office of Patent Legal Administration at (571)-272-7702. Questions relating to issue and publication fee payments should be directed to the Customer Service Center of the Office of Patent Publication at 1-(888)-786-0101 or (571)-272-4200.

**Notice of Allowability**

Application No.

10/579,379

Applicant(s)

SCHWAB, MARKUS

Examiner

ROBERT J. HOFFBERG

Art Unit

2835

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--**

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to 3/14/08.
2. ☒ The allowed claim(s) is/are 1-25.
3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some\* c) ☐ None of the:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).
- \* Certified copies not received: \_\_\_\_.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
- (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
- 1) ☐ hereto or 2) ☐ to Paper No./Mail Date \_\_\_\_.
- (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date \_\_\_\_.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).**
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

**Attachment(s)**

1. ☒ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO/SB/08),  
Paper No./Mail Date \_\_\_\_
4. ☐ Examiner's Comment Regarding Requirement for Deposit  
of Biological Material
5. ☐ Notice of Informal Patent Application
6. ☐ Interview Summary (PTO-413),  
Paper No./Mail Date \_\_\_\_.
7. ☒ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other \_\_\_\_.

### EXAMINER'S AMENDMENT

1. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.
2. Authorization for this examiner's amendment was given in a telephone interview with Thomas MacBlain, Reg. No. 24,583 on 5/2/08.
3. Amend claims 1, 12 and 25 as follows:
  - a. Claim 1, line 12, change "casing" to - casing, said inlet is at one of said front surface and said rear surface, said outlet is at the other one of said front surface and said rear surface--.
  - b. Claim 12. A casing for an electric device of the kind including an electric circuit, and at least one fan,
    - ~~(d)~~ (a) said electric circuit being implemented on a printed circuit board where at least one heat generating component is a part of the electric circuit,
    - ~~(e)~~ (b) the casing being substantially a cuboid in shape, including a U-shaped bottom and a U-shaped cover where an angled part of said U-shaped bottom and an angled part of said U-shaped cover form a double wall portion of the casing with an inner wall portion and an outer wall portion defining an air duct between the inner wall portion and the outer wall portion and leading from a front surface to a rear surface of said casing, said air duct having an inlet and an outlet, said inlet is at one of said front surface

and said rear surface, said outlet is at the other one of said front surface and said rear surface,

(f) (c) said casing being built such that said heat generating component is in thermal contact with the inner wall portion when the electric circuit is in place and that an air flow produced by said at least one fan is directed through said air duct, said double wall portion being a heat sink of the electric device.

- c. Claim 25. A casing for an electrical device of the kind including an electric circuit with a heat generating component and at least one fan, the casing characterized in that the casing includes a double wall portion with an inner wall portion and an outer wall portion defining an air duct between the inner wall portion and the outer wall portion and being built such that said heat generating component is in thermal contact with the inner wall portion when the electric circuit is in place and that an air flow produced by said at least one fan is directed through said air duct, said double wall portion being a heat sink of the electrical device, said casing being substantially a cuboid in shape and including a bottom and a cover fitted together in thermal contact, said inner wall portion being a part of said bottom, said outer wall portion being a part of said cover, said circuit being implemented on a printed circuit board and the printed circuit board being mounted on the bottom, said bottom including a base plate and a bottom side plate and said cover including a top plate and a cover side plate, said bottom side plate forming said inner wall

portion, said cover side plate forming said outer wall portion and said printed circuit board being mounted substantially parallel to said base plate, said cover side plate forming a lateral surface of said cubical casing, said air duct leading from a front surface to a rear surface of said cubical casing, and said air duct having an inlet, said inlet being formed by an end portion of said bottom side plate that is bent to an inner side of the casing to increase the air flow through said air duct and said at least one fan being arranged on the front surface of said cubical casing covering said inlet at least partially.

~~the casing receiving at least two fans, the casing including a second double wall portion with an inner wall portion and an outer wall portion defining a second air duct, said second double wall portion being a second heat sink and said at least two fans being arranged such that an air flow produced by said at least two fans is directed through said air ducts, respectively, and said casing being substantially a cuboid in shape and having two lateral surfaces, each air duct being arranged along one of said lateral surfaces respectively and leading from a front surface of the cuboid casing to a rear surface of the cuboid casing.~~

#### REASONS FOR ALLOWANCE

4. Claims 1-25 are allowed.
5. The claims 1-11 are allowable over the prior art of record for at least the reason that the prior art fails to teach or suggest a structure as in claim 1, comprising a casing being substantially a cuboid in shape including a U-shaped bottom and a U-shaped

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cover having an angled part of said U-shaped bottom and an angled part of said U-shaped cover forming a double wall portion of the casing including a double wall portion with an inner wall portion and an outer wall portion defining an air duct between the inner wall portion and the outer wall portion, said air duct having an inlet and an outlet and leading from a front surface to a rear surface of said casing, said inlet is at one of said front surface and said rear surface, said outlet is at the other one of said first surface and said rear surface, said heat generating component being in thermal contact with the inner wall portion, and an at least one fan being arranged such that an air flow produced by said at least one fan is directed through said air duct. The aforementioned limitations in combination with all remaining limitations of the respective claims are believed to render said independent claims 1 and all claims dependent therefrom patentable over art of record.

6. The claims 12-23 are allowable over the prior art of record for at least the reason that the prior art fails to teach or suggest a structure as in claim 12, comprising a casing being substantially a cuboid in shape including a U-shaped bottom and a U-shaped cover having an angled part of said U-shaped bottom and an angled part of said U-shaped cover forming a double wall portion of the casing including a double wall portion with an inner wall portion, said air duct having an inlet and an outlet and leading from a front surface to a rear surface of said casing, said inlet is at one of said front surface and said rear surface, said outlet is at the other one of said first surface and said rear surface, said casing being built such that said heat generating component is in thermal contact with the inner wall portion and that an air flow produced by said at least one



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fan is directed through said air duct. The aforementioned limitations in combination with all remaining limitations of the respective claims are believed to render said independent claims 12 and all claims dependent therefrom patentable over art of record.

7. Claims 24-25 are allowable over the art of record because the prior art does not teach or suggest that said air duct has an inlet, said inlet being formed by an end portion of said bottom side plate that is bent to an inner side of the casing to increase the air flow through said air duct, said at least one fan being arranged on the front surface of said substantially cuboid casing covering said inlet at least partially. The aforementioned limitations in combination with all remaining limitations of the respective claims are believed to render said independent claims 24-25 patentable over art of record.

8. Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

9. None of the cited references, either taken alone or in combination is believed to render the present invention unpatentable as claimed.

### ***Conclusion***

10. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Rochel et al. (US 5,946,188), Komatsu (US 6,175,494), Chang et al. (US 7,289,320) and Jory (US 7,312,992) disclose a casing having circuit board,

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the casing having being substantially a cuboid in shape and having an air duct, the air duct having an inner wall and an outer wall, the inlet is at one of said front surface and the rear surface, the outlet is at the other one of the first surface and the rear surface, but they fail to disclose that said casing includes a U-shaped bottom and a U-shaped cover having an angled part of said U-shaped bottom and an angled part of said U-shaped cover forming a double wall portion of the casing. Ahn (US 2003/0184961 and US 2003/0076652) disclose a casing having circuit board, the casing having being substantially a cuboid in shape and having an air duct, the air duct having an inner wall and an outer wall, but fails to disclose that said inlet is at one of said front surface and said rear surface, said outlet is at the other one of said first surface and said rear surface.

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Robert J. Hoffberg whose telephone number is (571) 272-2761. The examiner can normally be reached on 8:30 AM - 4:30 PM Mon - Fri.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jayprakash Gandhi can be reached on (571) 272-3740. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

RJH 5/1/08

/Robert J. Hoffberg/  
Examiner, Art Unit 2835

/Jayprakash N Gandhi/  
Supervisory Patent Examiner, Art Unit 2835